

Fenny van Egmond

Soil sensing quickscan provides useful information for farmers in Spain

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Soil sensing can be a powerful tool to assist agronomists and farmers in making crop/field management decisions. In the EU LIFE+ project 'Crops for better soils' Medusa Explorations improved tools for quick and effective mapping of soils and provided data of agricultural fields throughout the north of Spain. The project involves the monitoring of 400 hectares of marginal Spanish soils in a 5 year time span. The aim of the project was to demonstrate that by using organic farming techniques, crop rotation and the re-introduction of traditional crops, the soil quality can be improved and financial yields can be increased. The robust soil sensing platform on a 4x4 car enabled fast and flexible mapping with low transit and set-up time on fallow fields, orchards, vineyards and agro-forestry fields. The data from a Gammaspectrometer and a Ground Penetrating Radar (GPR), combined with a visual inspection of the fields, LIDAR data and open access geological maps, were interpreted to a comprehensive overview of the (variation of the) physical properties of the fields. This includes soil texture, soil compaction, tillage layer depth, stoniness, slope and altitude and general geology. The quickscan provides a sound basis for understanding crop variation, deriving research- and crop management zones and making crop management decisions.

Bio

Fenny has a background in soil science, GIS and remote sensing. Her drive is to provide practical understanding and knowledge about the physical surroundings, such as soils, using the data and sensors necessary to answer the question at hand.

She is soil advisor at Medusa Explorations (Groningen, the Netherlands). Medusa specialises in providing detailed and comprehensive soil information based on measurements with geophysical instruments such as gammaspectrometer and GPR, often combined with other data sources. Fenny focuses mainly on applications of soil sensing in (precision) agriculture, archaeology, environment and road maintenance. She is now finalising Medusa's contribution in the 5 year EU LIFE+ project 'Crops for Better Soil' in Spain.